

21
old

wherein $k = 2-12$,
 $m = 2-12$, and
 $R = \text{CH}(\text{CH}_3)_2, \text{CH}_2\text{CH}(\text{CH}_3)_2, \text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_3, (\text{CH}_2)_3\text{CH}_3,$
 $\text{CH}_2\text{C}_6\text{H}_5$, or $(\text{CH}_2)_3\text{SCH}_3$.

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6. (Amended) The construct according to any one of claims 1-5, wherein the construct is a deformable sheet adapted to conform to a biological surface.

7. (Amended) The construct according to claim 6, further comprising a bioactive agent.

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9. (Amended) The construct according to claim 7, wherein the construct comprises an enzyme capable of hydrolytically cleaving the PEA polymer.

17. (Amended) The method according to any one of claim 13-16, wherein the construct also comprises an enzyme capable of hydrolytically cleaving the PEA polymer.

--18. (new) The construct according to any one of claims 1-5, further comprising a bioactive agent.

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19. (new) The construct of claim 18, wherein the bioactive agent is selected from the group consisting of antiseptics, anti-infectives, such as bacteriophages, antibiotics, antibacterials, antiprotozoal agents, and antiviral agents, analgesics, anti-inflammatory agents including steroids and non-steroidal anti-inflammatory agents including COX-2 inhibitors, anti-neoplastic agents, contraceptives, CNS active drugs, hormones, and vaccines.

20. (new) The construct according to any one of claims 1-5, wherein the construct comprises an enzyme capable of hydrolytically cleaving the PEA polymer.

21. (new) The construct according to claim 20, wherein the enzyme is α -chymotrypsin.

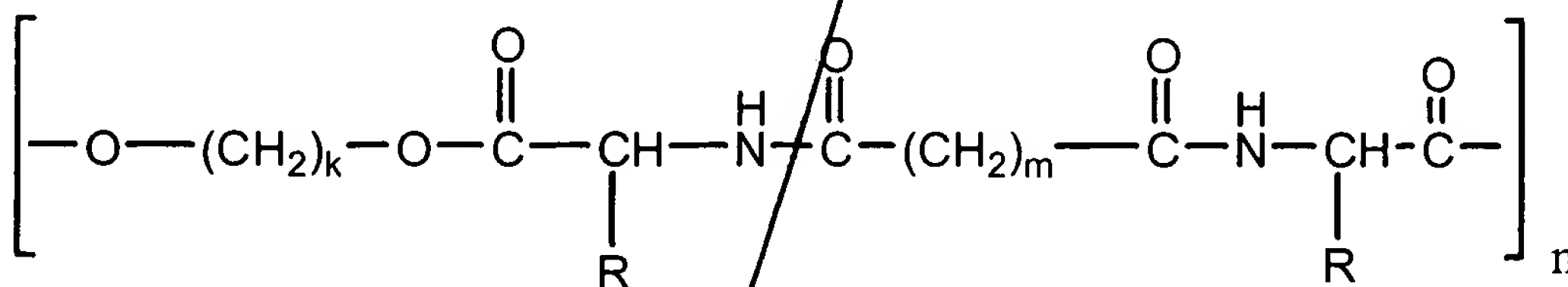
22. (new) The construct according to claim 20, wherein the enzyme is adsorbed on the surface of the construct.

ncd 23. (new) The construct according to claim 20, wherein the construct contains bacteriophage which are released by action of the enzyme.--

CLAIMS:

1. A bioerodable construct for controlled release of bioactive materials, said construct comprising a blend of two or more poly(ester-amide) polymers (PEA) prepared by polymerizing a diol (D), a dicarboxylic acid (C) and an alpha-amino acid (A) through ester and amide links in the form (DACA)_n.

wherein the PEA polymer has the formula:



where k = 2-12, especially 2, 3, 4, or 6,

m = 2-12, especially 4 or 8, and

R = CH(CH₃)₂, CH₂CH(CH₃)₂, CH(CH₃)CH₂CH₃, (CH₂)₃CH₃, CH₂C₆H₅, or (CH₂)₃SCH₃.

2. The construct of claim 1, wherein k = 2, 3, 4, or 6 and m = 4 or 8.

3. The construct of claim 1, wherein the blend comprises a first PEA polymer in which A is L-phenylalanine (Phe-PEA) and a second PEA polymer in which A is L-leucine (Leu-PEA).

4. The construct of claim 3, wherein the ratio of Phe-PEA to Leu-PEA is from 10:1 to 1:1.

5. The construct of claim 3, wherein the ratio of Phe-PEA to Leu-PEA is from 5:1 to 2.5:1.

6. The construct according to any preceding claim, wherein the construct is a deformable sheet adapted to conform to a biological surface.

7. The construct according to any preceding claim, further comprising a bioactive agent.

8. The construct of claim 7, wherein the bioactive agent is selected from the group consisting of antiseptics, anti-infectives, such as bacteriophages, antibiotics, antibacterials, antiprotozoal agents, and antiviral agents, analgesics, anti-inflammatory agents including steroids and non-steroidal anti-inflammatory agents including COX-2 inhibitors, anti-neoplastic agents, contraceptives, CNS active drugs, hormones, and vaccines.

9. The construct according to ~~any~~ preceding claim, wherein the construct comprises an enzyme capable of hydrolytically cleaving the PEA polymer.

10. The construct according to claim 9, wherein the enzyme is α -chymotrypsin.

11. The construct according to claim 9, wherein the enzyme is adsorbed on the surface of the construct.

12. The construct according to claim 9, wherein the construct contains bacteriophage which are released by action of the enzyme.

13. A method of treating a patient having an ulcerative wound comprising inserting into the wound or covering the wound with a bioerodable construct according to claim 1, wherein the bioerodable construct is a deformable sheet containing a bioactive agent.

14. The method of claim 13, wherein the bioactive agent is bacteriophage, an antibiotic, an antiseptic, or an analgesic.

15. The method of claim 13, wherein the wound is open or infected.

16. The method according to claim 14, wherein the bacteriophage are specific for bacteria found in the wound.

17. The method according to ~~any~~ preceding claim, wherein the construct also comprises an enzyme capable of hydrolytically cleaving the PEA polymer.